IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Appl. No. : 10/567,179
Applicant(s): Ingo Speier
Filed: May 22, 2008
TC/A.U.: 2800/28335
Examiner: Courtney L. Smith
Atty. Docket: 2005P03136US01
Confirmation No.: 6740
Title: THERMALLY AND ELECTRICALLY CONDUCTIVE APPARATUS

APPEAL BRIEF

Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In connection with the Notice of Appeal dated **May 12, 2011** and the Notice of Pre-Appeal Conference Decision dated **July 14, 2011**, Applicants provide the following Appeal Brief in the above-captioned application.

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1. Real Party in Interest

The real party in interest as assignee of the entire right and title to the invention described in the present application is Koninklijke Philips Electronics, N.V., having a principal place of business at Groenewoudseweg, 1Eindhoven, NL 5621 BA .

2. Related Appeals and Interferences

There are no known related appeals or interferences at this time.

3. Status of the Claims

Claims 1-18 are pending in the application. No claims are cancelled or withdrawn from issue at this time. Claims 1-18 are rejected and are the subject matter of the present appeal. Claims 1-18 are reproduced in the Appendix.

4. Status of the Amendments

An Office Action (final) was mailed on February 7, 2011. A Pre-Appeal Request for Review was filed on May 12, 2011. A Panel Decision was mailed on July 14, 2011. There are no outstanding amendments at this time.

5. Summary of the Claimed Subject Matter[1]

Referring to claim 1:

A thermally and electrically conductive apparatus to which one or more electronic devices can be operatively connected comprises: a thermally conductive element (e.g., 101, Fig. 1a) in thermal contact with the one or more electronic devices (e.g., 105, Fig. 1a); and a multilayer coating system including two or more layers, said two or more layers being a sequence of electrically insulating (e.g., 102,104, Fig. 1a) and electrically

1 In the description to follow, citations to various reference numerals, drawings and corresponding text in the specification are provided solely to comply with Patent Office Rules. It is emphasized that these reference numerals, drawings and text are representative in nature, and in not any way limiting of the true scope of the claims. It would therefore be improper to import any meaning into any of the claims simply on the basis of illustrative language that is provided here only under obligation to satisfy Patent Office rules for maintaining an Appeal.

conductive (e.g., 103, Fig. 1a) layers integrally formed on a portion of the thermally conductive element (e.g., 101). The electrically conductive layers (e.g., 103) providing one or more paths for supplying electric current to the one or more electronic devices (e.g., 105). (Please refer to claim 1; Figs.1a~1c of the filed application; and paragraphs [0041]~[0052] of the filed application); .

6. Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection to be reviewed on appeal are:

I. The rejection of claims 1-7 and 10-15 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by *Schick* (U.S. Patent Application Publication 20060261470; now U.S. Patent 7,505,268);

II. Claims 8-9 and 16-18 were rejected under 35 U.S.C. § 102(b)[2] or in the alternative, under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Schick*.

7. Argument

For at least the reasons set forth below, Applicants respectfully submit that all rejections are improper and should be withdrawn.

I. The rejection of claims 1-7 and 10-15 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by *Schick*

At the outset Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim.3 Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference.4 Alternatively, anticipation requires that each and every

[2] Applicants note that the Office Action relies on two separate paragraphs of 35 U.S.C. § 102 in the rejection of claims. Based on the international filing date of the present application, Applicants respectfully submit that a rejection under 35 U.S.C. § 102(b) is improper.
[3] *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983).
[4] *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990).

element of the claimed invention be embodied in a single prior art device or practice.[5] For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention.[6]

a. Claim 1

Claim 1 recites:

A thermally and electrically conductive apparatus to which one or more electronic devices can be operatively connected, the apparatus comprising:

a) ***a thermally conductive element*** *in thermal contact with the one or more electronic devices; and*

b) ***a multilayer coating system comprising three or more layers, said three or more layers being a sequence of electrically insulating and electrically conductive layers integrally formed on a portion of the thermally conductive element****, said electrically conductive layers providing one or more paths for supplying electric current to the one or more electronic devices.*

In a representative embodiment described in connection with Fig. 1a of the filed application, a multilayer coating system comprising alternating electrically conductive layer 103 and electrically insulating layers 102, 104 integrally formed on a portion of the thermally conductive element 101 (kindly refer to paragraph [0043] and Fig. 1a of the filed application for details of this representative embodiment).

Applicants respectfully submit that the applied art fails to disclose at least the featured multilayered coating system comprising three or more layers integrally formed on a portion of the thermally conductive element as specifically recited in claim 1. In rejecting claim 1, the Office Action directs Applicants to the evaporator portion 416 of *Schick* for the alleged disclosure of the thermally conductive element. The Office Action directs Applicants to Fig. 4 of *Schick*, and specifically to paragraphs [0040] and [0050]

[5] *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).
[6] *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

for the alleged disclosure of a multilayered coating system set (see page 2 of the Office Action). Applicants respectfully submit that there is no disclosure of such a multilayer coating system as specifically recited in claim 1.

Notably, paragraph [0040] of *Schick* describes that the evaporator portion (e.g., evaporator portion 416) can be **coated** with **thermally conductive material or** a **non thermally conductive dielectric material** that can be **patterned** with **electrical traces**. Thus, there is no disclosure of a ***multilayer coating system including three or more layers*** in the sequence specifically recited in claim 1, but rather a dielectric layer with **patterned electrical traces**.

Paragraphs [0048] and [0049] of *Schick* describe the materials that can be used as the substrate of the housing (e.g., housing 410). Notably, these materials are thermally conductive. Finally, paragraph [0050] describes how the substrate can be made of a metal with thermally conductive properties. Paragraph [0050] does describe that the substrate may be coated with a dielectric for electrical isolation of the light-emitting elements; and that electrical traces can be deposited on the dielectric to allow electrical conductivity. Applicants again respectfully submit that there is no disclosure of the ***multilayer coating system comprising three or more layers*** in the sequence as specifically set forth in claim 1.

At page 3, the Office Action directs Applicants to paragraphs [0042] and [0044] of *Schick*, stating (with emphasis in original):

"**Detailed description 0042 & 0044 further discloses primary and secondary LEDs that constitutes two electrical trace layers isolated by at least one dielectric insulating layer.**"

The Office Action relies on the evaporator portion 416 of *Schick* for the alleged disclosure of the thermally conductive element (See page 2 of the Office Action). Assuming *arguendo* but not conceding that the evaporator portion 416 can be so relied upon, Applicants note that the LEDs are also seemingly substituted for the alleged teachings of the thermally conductive element in the rejection.

Applicants again respectfully submit that two different elements, the evaporator portion 416 and the primary and secondary LEDs, are both seemingly relied upon for the alleged disclosure of the thermally conductive element. Applicants again respectfully submit that the two different elements disclosed in the applied art cannot be properly relied upon for the teachings of one element of a claim. This is wholly illogical and improper.

In response to Applicants Arguments, at page 10 the Office Action states:

"It should be noted that Detailed Description 0040 explicitly discloses a dielectric material patterned with electrical traces coating an evaporator portion (thermally conductive element—416-Fig.4) and thus the applicant shall hereby be without a doubt that an electrically insulating dielectric material patterned with electrical trace(s) constitutes a multilayer coating of at least three layers."

Again, rather than a ***multilayer coating system including three or more layers***, *Schick* discloses an evaporator portion (e.g., evaporator portion 416) can be **coated** with **thermally conductive material or a non thermally conductive dielectric material** that can be **patterned** with **electrical traces**. *Schick* is clearly deficient of the teachings of at least one feature in a rejection for anticipation.

For at least the reasons presented above, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 1. Therefore, a *prima facie* case of anticipation has not been established, and claim 1 is patentable over the applied art. Moreover, claims 2-18, which depend immediately or ultimately from claim 1, are patentable over the applied art for at least the same reasons as claim 1, and in view of their additionally recited subject matter.

II. The rejection of claims 8-9 and 16-18 were under 35 U.S.C. § 102(b) or in the alternative, under 35 U.S.C. § 103(a) in view of *Schick*.

i. *Schick* does not qualify as a reference under 35 U.S.C. § 102(b)

35 U.S.C. § 102(b) recites:

"A person shall be entitled to a patent unless…

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States…"

The present application enjoys an international filing date of January 5, 2006 based upon international application PCT/CA06/00011. The present application was filed in the national stage in the U.S. on May 22, 2008 in accordance with 35 U.S.C. § 371.

Schick was published on November 23, 2006, and accordingly does not meet the requirement of 35 U.S.C. § 102(b) of being described in a printed publication more than one year prior to the date of the application of the present application. Therefore, the rejection under 35 U.S.C. § 102(b) is improper and should be withdrawn.

ii. *Schick* disqualified as a reference under 35 U.S.C. § 103(c)

In keeping with the traversal of the rejection under 35 U.S.C. § 102(b), Applicants respectfully submit that at best, *Schick* would qualify under 35 U.S.C. § 102(e). In view of the commonality of ownership and the development by another, Applicants respectfully submit that *Schick* is disqualified as a reference under 35 U.S.C. § 103(c). Notably, 35 U.S.C. § 103(c) states:

"(c) (1) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person."

Schick was assigned to TIR Systems Ltd. as evidenced by the assignment filed in the USPTO and duly recorded at reel/frame 020833/0450. The present application was also assigned to TIR Systems Ltd. as evidenced by the assignment filed in the USPTO and duly recorded at reel/frame 020431/0366. Accordingly, Applicants respectfully submit that the rejection of claims 8, 9 and 16-18 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Conclusion

In view the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Philips Electronics North America Corp.

/William S. Francos/

by: William S. Francos (Reg. No. 38,456)
Date: August 15, 2011

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APPENDIX

Claims on Appeal

1. A thermally and electrically conductive apparatus to which one or more electronic devices can be operatively connected, the apparatus comprising:

a) a thermally conductive element in thermal contact with the one or more electronic devices; and

b) a multilayer coating system comprising three or more layers, said three or more layers being a sequence of electrically insulating and electrically conductive layers integrally formed on a portion of the thermally conductive element, said electrically conductive layers providing one or more paths for supplying electric current to the one or more electronic devices.

2. The thermally and electrically conductive apparatus according to claim 1, wherein one or more of the layers of the multilayer coating system include circuit traces for connection of the one or more electronic devices thereto, thereby providing a means for controlling the one or more electronic devices individually or in one or more groups of electronic devices.

3. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element is electrically conductive, and thereby capable of providing a path for supplying electric current to the one or more electronic devices.

4. The thermally and electrically conductive apparatus according to claim 1, wherein one or more of the three or more layers of the multilayer coating system are formed by deposition.

5. The thermally and electrically conductive apparatus according to claim 1, wherein the apparatus is coupled to a support structure comprising a circuit carrier.

6. The thermally and electrically conductive apparatus according to claim 5, wherein the multilayer coating system is configured to matingly connect with the circuit carrier,

thereby providing one or more electrical connections between the support structure and the thermally and electrically conductive apparatus.

7. The thermally and electrically conductive apparatus according to claim 6, wherein the thermally and electrically conductive apparatus is permanently connected to the support structure.

8. The thermally and electrically conductive apparatus according to claim 6, wherein the thermally and electrically conductive apparatus is removably connected to the support structure.

9. The thermally and electrically conductive apparatus according to claim 5, wherein the thermally and electrically conductive apparatus is embedded within the support structure.

10. The thermally and electrically conductive apparatus according to claim 5, wherein the support structure includes a heat dissipation system.

11. The thermally and electrically conductive apparatus according to claim 1, wherein the multilayer coating system is formed on an end of the thermally conductive element.

12. The thermally and electrically conductive apparatus according to claim 1, wherein the multilayer coating system is formed on a side of the thermally conductive element.

13. The thermally and electrically conductive apparatus according to claim 1, wherein the multilayer coating system sheaths at least a portion of the thermally conductive element.

14. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element is a passive thermal device selected from the group

comprising heat pipe, thermosyphon, microchannel cooler and macrochannel cooler.

15. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element is an active thermal device selected from the group comprising thermoelectric cooler, thermionic cooler and forced convection cooler.

16. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element has a shape selected from the group comprising pin, planar element, curved element, cylinder, paraboloid and ellipsoid.

17. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element has a cross sectional shape selected from the group comprising circular, parabolic, elliptical, prismatic and rectangular.

18. The thermally and electrically conductive apparatus according to claim 1, wherein the thermally conductive element has a curvilinear shape.

APPENDIX

Evidence

(NONE)

APPENDIX

Related Proceedings

(NONE)